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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,591	08/26/2003	Sanford D. Markowitz	CWRU-P03-003	4997

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EXAMINER	
RAWLINGS, STEPHEN L	

ART UNIT	PAPER NUMBER
1643	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/649,591	MARKOWITZ, SANFORD D.	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2006*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *75-122* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *75-122* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed April 10, 2006, is acknowledged and has been entered. Claims 1-74 have been canceled.

2. The amendment filed May 23, 2005, is acknowledged and has been entered.

3. The amendment filed August 26, 2003, is acknowledged; however, as noted on the Office communication mailed November 23, 2005, this amendment is not compliant with the requirements set forth under 37 C.F.R. § 1.121, and as such the amendment has not been entered.

4. Claims 75-122 are pending in the application and are currently subject to restriction.

Election/Restrictions

5. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I. Claims 75-107, drawn to a method for detecting colon neoplasia in a subject, said method comprising detecting the presence of one or more polypeptides in a sample acquired from the subject, classified, for example, in class 435, subclass 7.23.

Group II. Claims 108-110, and 116-122, insofar as the claims are drawn to drawn to an antibody that binds a polypeptide comprising SEQ ID NO: 21, a method for generating a monoclonal antibody that binds a polypeptide comprising SEQ ID NO: 21, and a kit comprising an antibody that binds a polypeptide comprising SEQ ID NO: 21, classified, for example, in class 530, subclass 387.9.

Group III. Claims 108-110, insofar as the claims are drawn to drawn to a kit comprising an antibody that binds a polypeptide comprising SEQ ID NO: 1 classified, for example, in class 530, subclass 387.9.

Group IV. Claims 108-110, insofar as the claims are drawn to drawn to a kit comprising an antibody that binds a polypeptide comprising SEQ ID NO: 2 classified, for example, in class 530, subclass 387.9.

Group V. Claims 108-110, insofar as the claims are drawn to drawn to a kit comprising an antibody that binds a polypeptide comprising SEQ ID NO: 3 classified, for example, in class 530, subclass 387.9.

Group VI. Claims 108-110, insofar as the claims are drawn to drawn to a polypeptide comprising an amino acid sequence that is at least 95% identical to SEQ ID NO: 21, classified, for example, in class 530, subclass 300.

6. The inventions are distinct, each from the other because of the following reasons:

The inventions of Groups II-VI are products, whereas the inventions of Group I are processes.

The inventions of Groups III-VI and the inventions of Group I are unrelated because the products of Groups III-VI are not specifically used or otherwise involved in the processes of Group I.

The inventions of Group II and the inventions of Group I are related as products and processes of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product as claimed, namely the antibody that binds a polypeptide

comprising SEQ ID NO: 21 can be used in a materially different process of using that product, such as the process of using the antibody as a means to purify the antigen to which the antibody binds by affinity chromatography.

The inventions of Groups I and II have acquired a separate status in the art, as evidenced by their different classifications and/or art-recognized divergence in subject matter, and the search performed in examining claims drawn to a product is a different from the search performed in examining claims drawn to a process using that product. Apart from the searching patent databases using the patent classification of the claimed subject matter, a thorough search of the technical literature is particularly pertinent, and since such a search is performed by a series of key word queries of relevant databases, each search would be performed using a different set or series of key words. Therefore, the search and considerations necessary in examining the merit of claims of Group I would not suffice to provide adequate information regarding the merit of the claims of Group II, and vice versa, since the searches are not the same, nor are they one coextensive in scope and nature. Because different searches would have to be performed to examine the inventions of Groups I and II, an examination of both would constitute a serious burden.

Since the inventions of Groups I and II have been shown to be patentably distinct, and because the examination of both inventions could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

The inventions of Groups II-VI are patentably distinct for the following reasons:

The inventions of Group II are an antibody that binds a polypeptide comprising SEQ ID NO: 21, a method for generating a monoclonal antibody that binds a polypeptide comprising SEQ ID NO: 21, and a kit comprising an antibody that binds a polypeptide comprising SEQ ID NO: 21. In contrast, the inventions of Group III are kits comprising an antibody that binds a polypeptide comprising SEQ ID NO: 1, the inventions of Group IV are kits comprising an antibody that binds a polypeptide comprising SEQ ID NO: 2, the inventions of Group V are kits comprising an antibody that binds a polypeptide comprising SEQ ID NO: 3, and the inventions of Group VI are

polypeptides comprising an amino acid sequence that is at least 95% identical to SEQ ID NO: 21.

Although each of the inventions of Groups II-V is, or include, a kit comprising an antibody that binds a protein, the inventions are nonetheless patentably distinct since each kit comprises an antibody that binds a different protein. Because the proteins to which the antibodies of the different kits bind comprise different amino acid sequences, the search required to examine the merit of claims directed to any one of the different inventions is not the same, nor is it coextensive with the search required to examine the merit of claims directed to any of the others. As such, consideration of claims directed to each of the different inventions requires a separate and distinct search; and the need to perform more than one search would be unduly burdensome. Accordingly, since the inventions of Groups II-V are patentably distinct, each from the others, and because the examination of more than one could not be made without serious burden, it is proper to restrict one from the other. See MPEP § 803.

Although the inventions of Groups II include an antibody that binds the inventions of Group VI, the inventions of Groups II and VI are nonetheless patentably distinct. An antibody, such as an immunoglobulin G (IgG) molecule, typically comprises four polypeptides: two light chains and two heavy chains, each containing constant and variable regions, which interact with one another to form an antigen-binding domain comprised of amino acid residues in each chain. In contrast, claims polypeptides are disclosed as consisting of a single polypeptide chain; so the inventions of Groups I and VI are structurally distinct from one another. Thus, any relationship between an antibody and a polypeptide to which the antibody binds is codependent upon the structural (i.e., antigenic) information provided by the polypeptide, which is recognized as the antigenic determinant to which the antibody binds, and the selective binding nature of the antigen-binding domain of the antibody. However, a polypeptide comprises multiple antigenic determinants and can thus elicit the production of multiple different antibodies, which recognize and bind structurally distinct portions (i.e., epitopes) of the polypeptide. Furthermore, an antibody is capable of recognizing and binding antigenic determinants that are shared by polypeptides, which are otherwise

structurally and/or functionally distinct from the claimed polypeptide to which it binds (e.g., a human protein's mouse homolog, or a different member of a functionally related family of proteins). Consequently, the disclosed relationship between an antibody that binds a polypeptide and the polypeptide is not exclusive, since either the claimed antibody or the claimed polypeptide can also be related to other polypeptides or antibodies, respectively, which are materially and chemically different from the claimed inventions. Therefore, the inventions of Groups II and VI are patentably distinct products.

Searching both the inventions of Groups II and VI would be unduly burdensome, because the inventions have acquired a separate status in the arts, as evidenced by their separate classifications, and moreover because the necessary searches are not the same, nor are they coextensive in nature and scope with one another. A search of relevant sequence databases using the entire amino acid sequence of the polypeptide as query is necessary for the determination of the novelty and unobviousness of the polypeptide. However, such a search is not necessary, or sufficient to identify antibodies that bind the polypeptide, since antibodies that bind an epitope of the polypeptide may be known, even if the polypeptide is not (e.g., a anti-phosphotyrosine antibody binds a phosphotyrosine epitope, which is shared by numerous different proteins, and which would bind a novel tyrosine phosphorylated polypeptide). Accordingly, a thorough search of the technical literature is particularly pertinent, and since such a search is performed by a series of key word queries of relevant databases, each search would be performed using a different set or series of key words. Therefore, having to search both the inventions of Groups II and VI would constitute a serious burden.

Since the inventions of Groups II and VI are patentably distinct and because the examination of both could not be made without serious burden, it is proper to restrict one from the other. See MPEP § 803.

7. This application contains claims 75-107 directed to patentably distinct species of the invention of Group I, wherein said process comprises detecting one or more

polypeptides, wherein said one or more polypeptides are selected from the group consisting of (a) a polypeptide comprising an amino acid sequence that is at least 95% identical to SEQ ID NO: 1, (b) a polypeptide comprising an amino acid sequence that is at least 95% identical to SEQ ID NO: 2, (c) a polypeptide comprising an amino acid sequence that is at least 95% identical to SEQ ID NO: 3, (d) a polypeptide comprising an amino acid sequence that is at least 95% identical to SEQ ID NO: 4, (e) a polypeptide comprising an amino acid sequence that is at least 95% identical to SEQ ID NO: 5, and (f) a polypeptide comprising an amino acid sequence that is at least 95% identical to SEQ ID NO: 21.

Each species of the invention is patentably distinct from the others since each comprises detecting one or more members of the genus of polypeptides having relatively unique amino acid sequences. Thus, each different species of invention necessarily measures a different endpoint and establishes a different correlation between this measured endpoint and the presence of colon neoplasia in a subject. Furthermore, because each of these different polypeptides is structurally different, each is reasonably expected to have a unique function and moreover the presence of each in a biological sample acquired from a subject is expected to more or less significantly correlate with the presence of colon neoplasia in the subject. For this reason, each different it is expected that each different species of the invention will have different a probability for success. Accordingly, the examination of claims directed to any one species of invention would require a unique search that is not required for examination of any of the other species of invention, because the search of a process comprising detecting any one or more members of the genus of polypeptides will not provide adequate information regarding any other process comprising detecting a different set of one or more of these polypeptides. Moreover, the search necessary to examine claims directed to any one species of invention is not the same, nor is it coextensive with the search necessary to examine claims directed to any other. Since having to perform more than one search would constitute a serious burden, it is proper to restrict these species of invention and require Applicant to elect only one. See MPEP § 809.

Applicant is required under 35 U.S.C. 121 to specifically elect a single species of invention by identifying the one or more polypeptides to which the claims of elected group of inventions will be directed during prosecution on the merits, and to which the claims shall be restricted if no generic claim is finally held to be allowable. The Examiner notes that novelty and nonobviousness of the elected species of invention would render claims directed to that species allowable over the prior art, but not necessarily over the requirements set forth under 35 U.S.C. §§ 101 and 112.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, Applicant will be entitled to consideration of claims to additional species, which are written in dependent form, or otherwise, include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

8. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions

unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. § 103(a) of the other invention.

9. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen L. Rawlings, Ph.D., whose telephone number is (571) 272-0836. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms, Ph.D. can be reached on (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen L. Rawlings, Ph.D.
Examiner
Art Unit 1643

slr
April 18, 2006